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Agency Secretary

Air Resources Board

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Arnold Schwarzenegger
Governor

TO: Alan C. Lloyd, Ph.D.
Agency Secretary

FROM: Catherine E. Witherspoon
Executive Officer

DATE: September 21, 2005

SUBJECT: CLEAN SCHOOL BUS ALLOCATION PLAN

The State budget for FY 2005-06 appropriated \$25 million to the Air Resources Board to clean up California's school buses by replacing or retrofitting older, high-emitting buses. In his signing message on the budget bill, the Governor directed ARB to develop a plan for allocating these funds by September 15, 2005, and to submit that plan to Cal/EPA for review and approval. Our allocation plan is set forth below.

ARB has existing guidelines for the allocation of school bus funds, which were adopted by the Board in December 2000, after full public hearing and in consideration of extensive public testimony. ARB has used those guidelines to allocate one-time state appropriations and the school bus revenues provided by Proposition 40. The current \$25 million appropriation is not cross-linked to the existing guidelines so we have discretion about how to proceed. However, since the existing guidelines reflect the Governing Board's policy perspective (as known to staff) and some degree of past consensus, staff has used its provisions as a starting point for discussion.

Since the \$25 million was appropriated, we have been approached by individual Legislators and by stakeholders who want ARB staff to modify the manner in which past funds have been allocated. Namely, to switch from a population-based allocation scheme to a vehicle age-based distribution so that air districts with the largest population of pre-1977 school buses would get more of the replacement funds. Staff has also been asked to consider route length when allocating particulate filter funds, so that rural schools with the longest commutes and highest children's exposure would have priority for trap installation. These are very worthy concepts for consideration. But since they diverge from past practice, ARB staff believes it is necessary to workshop these concepts with all affected stakeholders prior to implementation. It may also be necessary to return to the Board for policy guidance if staff is unable to form a rough consensus between the affected parties.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Funding Directives

The Legislature established several allocation criteria for the expenditure of the new school bus funds (see Enclosure 1). One half of the \$25 million (\$12.5 million) is to be spent on replacing pre-1977 school buses. New replacement school buses must have the lowest possible emissions regardless of fuel type and must comply with current passenger safety standards. These funds are sufficient to replace approximately 100 pre-1977 buses. The other half of the money (\$12.5 million) is to be spent on diesel retrofits that achieve at least an 85% reduction in particulate matter. Approximately 1,000 in-use diesel school buses can be retrofitted using these funds. All of the money must be appropriated in a way that provides equitable geographical distribution and reduces health risks to children.

School Bus Age

ARB's current school bus guidelines place equal priority on replacing both pre-1977 and pre-1987 buses. Particulate emissions from school buses were unregulated until 1987 and oxides of nitrogen standards were very lax until 1987. Therefore, from an air quality standpoint both pre-1977's and pre-1987's are basically uncontrolled. Nonetheless, the current appropriation directs that ARB replace pre-1977 buses only. There are approximately 1,000 pre-1977 buses in service today. Approximately 100 of those can be replaced with \$12.5 million dollars, leaving aside the match issue (see below) and whether any individual air districts choose to purchase alternative fuel buses instead.

Applicants' Financial Capacity

The Governor's signing message directed ARB to consider school district's ability to pay for new school buses without state assistance. This language is directed at match requirements which, when applied, stretch the State's dollars farther but also prevent poor school districts from participating. To date, ARB has required a \$10,000 match for pre-1977 school bus replacements. Individual air districts are authorized to provide match funds for schools that are unable to pay, using local funds (for example, their motor vehicle registration surcharge revenue). There is no question that several school districts are impoverished, particularly those in rural areas. But even at the current match levels, there are many more applicants than funds available. For that reason, ARB staff is not proposing any change to match requirements at this time. If match requirements are eliminated, the number of new school buses purchased to replace pre-1977 buses would drop by about 10%, meaning we could afford 90 rather than 100 new school buses. A new diesel school bus costs \$110,000. Natural gas school buses cost \$140,000 and there may be additional costs for fueling infrastructure.

Children's Exposure

The Legislature directed ARB to allocate funds in a manner that reduces children's exposure to school bus emissions. A new issue that ARB staff will be considering is in-bus exposures. Our Children's School Bus Exposure Study, completed in 2003, indicates that children who ride school buses have increased exposure to diesel particulate. The study found that diesel exhaust levels inside buses are higher than those inside passenger cars. Exposure was highest in the oldest school buses and for children on the longest commutes. The results indicated that self-contamination from the bus's own exhaust is occurring, along with pollution from other vehicles. Another factor to consider is background diesel concentrations. All California children are continuously exposed to ambient diesel particulate but that exposure is highest in urban, heavily trafficked areas and in schools closest to dense diesel sources such as ports, warehouse distribution centers or rail yards. The estimated current exposure for California's 14 air basins is shown in Enclosure 2.

Geographical Distribution

This is the most controversial issue surrounding the new appropriation. The expressed legislative intent is for the Board to provide "an equitable geographic distribution" of the school bus funds. That suggests continuing on with the current population-based criteria. However, the control language also mandates the replacement of pre-1977 vehicles only and ARB staff have been asked to shift the allocation criteria towards the geographical distribution of those vehicles. In addition, various children's exposure scenarios need to be considered. There is no simple solution to these issues. Public dialogue is needed to proceed.

Public workshop

ARB staff plans to conduct at least one public meeting to inform all stakeholders of the funding directives for the \$25 million school bus appropriation. Stakeholders include legislative staff, the California Energy Commission which administered funds to rural schools in prior years, air districts, school districts, bus and retrofit manufacturers, environmental groups, and the California Highway Patrol (CHP) among others. At that meeting, staff will also discuss outstanding issues including match requirements and allocation formulas. Staff will update stakeholders on technological developments that have occurred since the last round of school bus funding. Finally, staff will discuss the legal requirement for CHP to inspect retrofitted school buses prior to those buses being placed back into service. The public meetings would occur in the next two months pending your approval of our allocation plan.

Guidelines Update

Even before the new \$25 million appropriation, ARB's existing school bus guidelines needed to be updated. Now there are new issues that need to be addressed. Accordingly, ARB staff is preparing a guideline update this fall, to be presented to the Board next spring. Anticipated changes include reinstating retrofit provisions (which were deleted under Proposition 40 funding), adding a requirement for CHP inspection of school buses after retrofit installation, and allowing funding for replacement of the compressed natural gas fuel tanks after 15 years (their useful life and the length of current safety certifications). Proposed purchase requirements for 2007 and later model year school buses will also be added, since the current guidelines extend through 2006 only. Finally staff will report on the public dialogue about the new \$25 million appropriation and make recommendations for further changes to the guidelines, as appropriate.

Funding Timeline

The projected timetable for allocating the \$25 million school bus funds is given below. We recognize it is important to get the money to school districts as quickly as possible and will make every effort to accelerate this timetable. But given the need for additional public process on the allocation criteria and other issues, it is clear that we are looking at least a few months of new work.

Clean School Bus Program Appropriation Funding Timeline	
October/November 2005	Public meeting(s)
January 2005	Draft school bus guideline changes released for public review
March 2006	Board considers and approves guideline updates
May 2006	ARB enters into funding agreements with local air districts and California Energy Commission (CEC)
By September, 2006	School districts apply for new bus and/or retrofit funding
By December 31, 2007	Final expenditure reports due to ARB from air districts and CEC

Alan C. Lloyd, Ph.D.
September 21, 2005
Page 5

I hope that this school bus allocation plan meets with your approval. We will keep you informed as we move ahead. If you have any questions, please call me directly or contact Mr. Jack Kitowski, Chief, On-Road Controls Branch, at (916) 323-6169 or jkitowsk@arb.ca.gov.

Enclosures (2)

cc: Honorable ARB Board Members
Patty Zwarts, Legislative Director, Cal/EPA
Tom Cackette, Chief Deputy Executive Officer, ARB
Jack Kitowski, Chief, On-Road Controls Branch, ARB
Rob Oglesby, Legislative Director, ARB

**ARB
FY 2005-06 Budget Language
Lower Emission School Bus Program
\$25 million**

Budget Language

3900-001-0044 (Motor Vehicle Account)

1. Of the amount appropriated in this item, \$12,500,000 shall be used by the State Air Resources Board to replace pre-1977 school buses with new school buses that comply with the most recent passenger safety standards, and that have been certified by the board to meet the lowest achievable emission levels irrespective of the fuel stock used.
2. Of the amount appropriated in this item, \$2,500,000 shall be used to retrofit in-use diesel school buses to protect children's health and reduce particulate matter emissions from those buses by at least 85 percent.
3. In expending funds under Provision 2, the State Air Resources Board shall require retrofit technologies to do all of the following: (a) have at least a level 3 verification from the board; (b) apply to the broadest range of year, make, and model of school bus diesel engine; (c) operate on CARB diesel fuel or ultra-low sulfur diesel fuel; (d) operate across the broadest range of school bus operating conditions and duty cycles; and (e) produce the lowest possible NO₂ across the device.
4. It is the intent of the Legislature in appropriating these funds that the State Air Resources Board provide equitable geographic distribution of the funds in a manner that reduces the risk to children's health from diesel emissions from school buses.

3900-001-0115 (Air Pollution Control Fund)

1. Of the amount appropriated in this item, \$10,000,000 shall be used to retrofit in-use diesel school buses to protect children's health and reduce particulate matter emissions from those buses by at least 85 percent.
2. In expending funds under Provision 1, the State Air Resources Board shall require retrofit technologies to do all of the following: (a) have at least a level 3 verification from the board; (b) apply to the broadest range of year, make, and model of school bus diesel engine; (c) operate on CARB diesel fuel or ultra-low sulfur diesel fuel; (d) operate across the broadest range of school bus operating conditions and duty cycles; and (e) produce the lowest possible NO₂ across the device.

3. It is the intent of the Legislature in appropriating these funds that the State Air Resources Board provide equitable geographic distribution of the funds in a manner that reduces the risk to children's health from diesel emissions from school buses.

Governor's Signing Message

To ensure that this augmentation is spent most appropriately, I am directing the Air Resources Board to develop a plan by September 15, 2005, for allocation of these resources, and to submit this plan to the California Environmental Protection Agency for review and approval. The allocation plan must consider the overall financial capacity of the applicant to reasonably replace these buses without state assistance, the exposure to children, and the age of the buses slated for replacement.

Projected PM₁₀ Concentration Attributed to Emissions from Diesel Exhaust				
<i>Air Basin</i>	<i>Base Year 1990 (micro g/m3)</i>	<i>1995 (micro g/m3)</i>	<i>2000 (micro g/m3)</i>	<i>2010 (micro g/m3)</i>
Great Basin Valleys	0.2	0.1	0.1	0.1
Lake County	0.3	0.2	0.2	0.2
Lake Tahoe	1.0	0.5	0.4	0.3
Mojave Desert	0.8	0.6	0.4	0.4
Mountain Counties	0.6	0.4	0.4	0.3
North Central Coast	1.4	1.0	0.8	0.7
North Coast	1.2	0.9	0.8	0.8
Northeast Plateau	1.1	0.8	0.7	0.6
Sacramento Valley	2.5	1.6	1.2	1.1
Salton Sea	2.6	1.8	1.5	1.4
San Diego	2.9	1.9	1.4	1.2
San Francisco Bay Area	2.5	1.9	1.6	1.5
San Joaquin Valley	2.6	1.7	1.3	1.2
South Central Coast	1.8	1.2	1.1	1
South Coast	3.6	2.7	2.4	2.4
<i>Statewide</i>	<i>3.0</i>	<i>2.2</i>	<i>1.8</i>	<i>1.7</i>

Source: "Proposed Identification of Diesel Exhaust as a Toxic Air Contaminants"
Appendix III, Part A, "Exposure Assessment", as approved by the Scientific
Review Panel on April 22, 1998.